

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application Serial No. 10/020,130
Attorney Docket No. Q67762

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claim 1 (currently amended): A transmission power control method for controlling transmission power of downlink signals from base stations to a mobile terminal in a mobile communications system, comprising the steps of:

selecting, at the mobile terminal, a first base station, said first base station transmitting user data in a downlink signal with a preferred reception quality;

transmitting, from the mobile terminal, identification of the selected first base station to the first base station and other base stations not selected by said mobile terminal;

determining, at the mobile terminal, transmission power of downlink signals from the other base stations not selected by said mobile terminal, said other base stations transmitting user data in said downlink signals to the mobile terminal after the identification of the selected first base station is selected transmitted; and

sending information, from the mobile terminal to the other base stations, to modify the transmission power of the downlink signals of the other base stations based on the determined transmission power of the downlink signals from said other base stations not selected by said mobile terminal.

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Claim 2 (previously presented): A transmission power control method according to claim 1, wherein the step of determining comprises estimating uplink reception quality of said other base stations.

Claim 3 (previously presented): A transmission power control method according to claim 2, wherein signal weights are determined for the downlink signals from said other base stations based on the uplink reception quality.

Claim 4 (currently amended): A transmission power control method according to claim 2, wherein said estimating comprises calculating a correlation between an increase or decrease in transmission power instructed by a transmission power control, and an increase or decrease in transmission power of a downlink signal received from a base station that is transmitting user data to the mobile terminal after the first base station is selected, wherein said correlation is calculated based on a difference of the increase or decrease of the transmission power instructed and the increase or decrease in the transmission power of the downlink signal received.

Claim 5 (previously presented): A transmission power control method according to claim 1, wherein a signal obtained by combining weighted downlink signals from said other base

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stations is used to determine whether the transmission power of the other base stations is excessive or insufficient.

Claim 6 (currently amended): A receiving method for demodulating user data in a downlink signal from base stations to a mobile terminal in a mobile communications system, comprising the steps of:

selecting, at the mobile terminal, a first base station, said first base station transmitting user data in a downlink signal having a preferred reception quality[[],];

transmitting, from the mobile terminal, identification of the selected first base station to the first base station and other base stations not selected by said mobile terminal; and

using downlink signals from said other base stations not selected by said mobile terminal, said other base stations transmitting user data after the identification of the selected first base station is selectedtransmitted, to demodulate, at the mobile terminal, user data from said selected first base station by combining the downlink signal of the selected first base station and the downlink signals from said other base stations not selected by said mobile terminal.

Claim 7 (previously presented): A receiving method according to claim 6, wherein said step of using comprises determining estimated uplink reception quality of said other base stations.

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Claim 8 (previously presented): A receiving method according to claim 7, wherein signal weights are determined for the downlink signals from said other base stations based on the uplink reception quality.

Claim 9 (currently amended): A receiving method according to claim 7, wherein said estimating comprises calculating a correlation between an increase or decrease in transmission power instructed by a transmission power control, and an increase or decrease in transmission power of a downlink signal received from a base station that is transmitting user data to the mobile terminal after the first base station is selected, wherein said correlation is calculated based on a difference of the increase or decrease of the transmission power instructed and the increase or decrease in the transmission power of the downlink signal received.

Claim 10 (previously presented): A receiving method according to claim 6, wherein a signal obtained by combining weighted downlink signals from the other base stations is used for demodulating the user data from said first base station.

Claims 11-17 (canceled).

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Claim 18 (currently amended): A mobile terminal that controls transmission power of downlink signals from base stations in a mobile communications system, comprising:

base station selecting means for selecting a first base station that is transmitting user data in a downlink signal with a preferred reception quality;

transmission means for transmitting, from the mobile terminal, identification of the selected first base station to the first base station and other base stations not selected by said mobile terminal;

downlink signal weight decision means for determining transmission power of downlink signals from other base stations not selected by said mobile terminal, said other base stations transmitting user data in said downlink signals to the mobile terminal after the identification of the selected first base station is selectedtransmitted; and

downlink TPC command decision means for using the downlink signals from said other base stations, to decide whether transmission power of said other base stations is excessive or insufficient, and to instruct an increase or decrease of said transmission power based on the determined transmission power of the downlink signals from said other base stations not selected by said mobile terminal.

Claim 19 (currently amended): A mobile terminal for receiving user data in the downlink signal from base stations in a mobile communications system, comprising:

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base station selecting means for selecting a first base station that is transmitting user data in a downlink signal with a preferred downlink reception quality;

transmission means for transmitting, from the mobile terminal, identification of the selected first base station to the first base station and other base stations not selected by said mobile terminal;

downlink signal weight decision means for determining transmission power of downlink signals from said other base stations not selected by said mobile terminal, said other base stations transmitting user data in said downlink signals to the mobile terminal after the identification of the selected first base station is selected transmitted; and

data demodulating means for using downlink signals from said other base stations, to demodulate user data from said first base station by combining the downlink signal of the selected first base station and the downlink signals from said other base stations not selected by said mobile terminal.

Claim 20 (previously presented): A mobile terminal according to claim 18 or claim 19, wherein said downlink signal weight decision means estimates uplink reception quality of said other base stations.

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Claim 21 (previously presented): A mobile terminal according to claim 20, wherein signal weights are determined for the downlink signals from said other base stations based on the uplink reception quality.

Claim 22 (currently amended): A mobile terminal according to claim 20, wherein the downlink signal weight decision means calculates an estimated uplink reception quality from a correlation between an increase or decrease in transmission power instructed by a transmission power control, and an increase or decrease in power of a downlink signal received from a base station that is transmitting user data to the mobile terminal after the first base station is selected, wherein said correlation is calculated based on a difference of the increase or decrease of the transmission power instructed and the increase or decrease in the transmission power of the downlink signal received.

Claim 23 (previously presented): A mobile terminal according to claim 18, wherein the downlink TPC command decision means uses a signal obtained by combining weighted downlink signals from said other base stations to decide whether transmission power of the other base stations is excessive or insufficient.

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Claim 24 (previously presented): A mobile terminal according to claim 19, wherein said data demodulating means uses a signal obtained by combining weighted downlink signals from said other base stations to demodulate the user data.

Claim 25 (new): A transmission power control method according to claim 1, wherein said other base stations not selected by the mobile terminal transmit user data to the mobile terminal in a downlink dedicated physical channel and transmit pilot data in a downlink dedicated control channel after the identification of the selected first base station is transmitted.

Claim 26 (new): A receiving method according to claim 6, wherein said other base stations not selected by the mobile terminal transmit user data to the mobile terminal in a downlink dedicated physical channel and transmit pilot data in a downlink dedicated control channel after the identification of the selected first base station is transmitted.

Claim 27 (new): A mobile terminal according to claim 18, wherein said other base stations not selected by the mobile terminal transmit user data to the mobile terminal in a downlink dedicated physical channel and transmit pilot data in a downlink dedicated control channel after the identification of the selected first base station is transmitted.

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Claim 28 (new): A mobile terminal according to claim 19, wherein said other base stations not selected by the mobile terminal transmit user data to the mobile terminal in a downlink dedicated physical channel and transmit pilot data in a downlink dedicated control channel after the identification of the selected first base station is transmitted.